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To: G. Kendall Taylor, P.G., Director
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Thru: Joe Bowers, P.G., Manager JB
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From: Cynde Devlin, Hydrogeologist CD
RCRA Hazardous Waste Section
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Bureau of Land and Waste Management

Date: September 29, 2003

Re: Former Eliskim Site
SCD 003 342 938
Anderson County

Evaluation of the Former Eliskim Site status under the RCRIS Corrective Action Environmental Indicator Event Code CA725 (Human Exposures)

Please find attached an evaluation of the Environmental Indicator (EI) Event Code CA 725 (Human Exposures) for the former Eliskim Site.

I. PURPOSE OF MEMO

This memo is written to formalize an evaluation of the former Eliskim site's status in relation to the following corrective action event codes defined in the Resource Conservation and Recovery Information System (RCRIS):

1) Current Human Exposures Under Control (CA725),

II. HISTORY OF ENVIRONMENTAL INDICATOR EVALUATIONS AT THE FACILITY AND REFERENCE DOCUMENTS

This particular evaluation is the third evaluation for the former Eliskim site. An evaluation of Human Exposures Controlled (CA 725) and Migration of Contaminated Groundwater Controlled (CA 750) was completed for Eliskim in August 1998. The August 1998 evaluation resulted in a "NO" for Event Codes 725 and 750. A second Environmental Indicator evaluation was completed for the Eliskim Site in September 2002 for Migration of Contaminated Groundwater only. The September 2002 evaluation determined that the groundwater remediation system installed in 1997 was effective in controlling the migration of contaminated groundwater, therefore, the Event Code 750 was changed to "YES".

Surface water contamination in the unnamed tributary was accessible at the time of the August 1998 and September 2002 EI evaluations, therefore, Event Code 725 remained as "NO". However, actions have been taken to minimize human exposures to contaminated surface water since the last Environmental Indicator evaluation. Human exposures to surface water have been evaluated in this memorandum.

III. FACILITY SUMMARY

The former Eliskim Site is located approximately one mile south of Anderson, South Carolina. In 1956, Allegheny International, Inc. began operating the facility under the name True Temper. In December 1985, Allegheny International sold True Temper to Emhart Corporation but retained ownership of the hazardous waste management areas under the name Eliskim. Allegheny was later purchased by Sunbeam Oster Corporation. The facility originally manufactured fiberglass/metal fishing rods and fishing tackle. Beginning in 1981, the facility manufactured lawn and garden tools. The manufacturing process incorporated metal finishing procedures such as electroplating, grinding, polishing and cleaning. The majority of the electroplating operations included nickel/chromium and nickel/zinc processes.

Four unlined impoundments managed electroplating wastes and waste fiberglass sludge at the site. One impoundment was used for equalization and settling of electroplating waste. Two impoundments were used for collection of waste fiberglass sludge. Waste from these units was determined to be F006 and D007 hazardous waste. Another impoundment, the former Roto Pond, was used for the collection of polishing grit slurries. In October 1988, all units were closed and capped as one hazardous waste management area in accordance with RCRA requirements.

Assessment of groundwater quality downgradient of the hazardous waste management area determined that groundwater had been impacted by facility operations. A Post Closure Care Hazardous Waste Permit was issued on September 29, 1989 which required groundwater monitoring and remediation.

On March 1, 2001, Sunbeam Oster filed for Chapter 11 bankruptcy and ceased operation of all remedial activities at the Eliskim site. On May 10, 2001, the Department secured financial assurance required by the Post Closure Permit from a performance bond into a Standy Trust

Fund. Since May 2001, the Department has managed the site remedial efforts. Prior to declaring bankruptcy, Eliskim agreed to install a fence on the Eliskim property to minimize human exposure to surface water contamination. Eliskim failed to complete the installation prior to declaring bankruptcy. Therefore, installation of the fence was completed by the Department in September 2003. The fence will prevent unauthorized access to the surface water contamination.

IV. CONCLUSION FOR CA725

This evaluation for Event Code 725 finds that human exposures as a result of the surface water contamination in the unnamed tributary are controlled.

V. SUMMARY OF FOLLOW-UP ACTIONS

In September 2003, the Department installed fencing and gates at the property boundary of the former Eliskim facility. The 7 foot chain link fence will tie into existing fencing around the wastewater treament and waste management areas. The downgradient edge of the groundwater contaminant plume and downgradient edge of the surface water contamination will be within the fenced area. The fencing will prevent unauthorized access to contamination in the unnamed tributary.

Attachments: CA725: Current Human Exposures Under Control

Current Human Exposures Under Control Interim Final 2/5/99
Environmental Indicator (EI) RCRIS Event Code (CA725)
ATTACHMENT 1
DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION
RCRA Corrective Action
Environmental Indicator (EI) RCRIS Code (CA725)
Current Human Exposures Under Control

Facility Name: **Former Eliskim Site**
Facility Address: **True Temper Road, Anderson , SC**
Facility EPA ID #: **SCD 003 342 938**

1. Has **all** available relevant/significant information on known and reasonably suspected releases to soil, groundwater, surface water/sediments, and air, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)), been **considered** in this EI determination?

X If yes - check here and continue with #2 below,

____ If no - re-evaluate existing data, or

____ If data are not available skip to #6 and enter "IN" (more information needed) status code.

BACKGROUND

Definition of Environmental Indicators (for the RCRA Corrective Action)

Environmental Indicators (EI) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of the environment. The two EI developed to date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future.

Definition of "Current Human Exposures Under Control" EI

A positive "Current Human Exposures Under Control" EI determination ("YE" status code) indicates that there are no "unacceptable" human exposures to "contamination" (i.e., contaminants in concentrations in excess of appropriate risk-based levels) that can be reasonably expected under current land - and groundwater-use conditions (for all "contamination" subject to RCRA corrective action at or from the identified facility (i.e., site-wide)).

Relationship of EI to Final Remedies

While Final remedies remain the long-term objective of the RCRA Corrective Action program the EI are near-term objectives which are currently being used as Program measures for the Government Performance and Results Act of 1993, GPRA). The "Current Human Exposures Under Control" EI are for reasonably expected human exposures under current land - and groundwater-use conditions ONLY, and do not consider potential future land - or groundwater-use conditions or ecological receptors. The RCRA Corrective Action program's overall mission to protect human health and the environment requires that Final remedies address these issues (i.e., potential future human exposure scenarios, future land and groundwater uses, and ecological receptors).

Duration / Applicability of EI Determinations

EI Determinations status codes should remain in RCRIS national database ONLY as long as they remain true (i.e., RCRIS status codes must be changed when the regulatory authorities become aware of contrary information).

2. Are groundwater, soil, surface water, sediments, or air **media** known or reasonably suspected to be "**contaminated"**[1] above appropriately protective risk-based "levels" (applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action (from SWMUs, RUs or AOCs)?

Media	Yes	No		Rationale/Key Contaminants
Groundwater	X			TCE, 1,2-dichloroethene, nickel
Air (indoors)[2]		X		No occupied buildings .
Surface Soil (e.g., <2 ft)		X		
Surface Water	X			TCE, 1,2-dichloroethene
Sediment	X			TCE, 1,2-dichlloroethene
Subsurface Soil (e.g., >2 ft)	X			Within RCRA capped areas only
Air (outdoors)		X		

____ If no (for all media) - skip to #6, and enter "YE" status code after providing or citing appropriate "levels" and referencing sufficient supporting documentation demonstrating that these "levels" are not exceeded.

__X__ If yes (for any media) - continue after identifying key contaminants in each "contaminated" medium, citing appropriate "levels" (or provide an explanation for the determination that the medium could pose an unacceptable risk), and referencing supporting documentation.

____ If unknown (for any media) - skip to #6 and enter "IN" status code.

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[1] "Contamination" and "contaminated" describes media containing contaminants (in any form, NAPL and/or dissolved, vapors, or solids, that are subject to RCRA) in concentrations in excess of appropriately protective risk-based "levels" (for the media, that identify risks within the acceptable risk range).

[2] Recent evidence (from the Colorado Dept. of Public Health and Environment, and others) suggest that unacceptable indoor air concentrations are more common in structures above groundwater with volatile contaminants than previously believed. This is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration necessary to be reasonably certain that indoor air (in structures located above (and adjacent to) groundwater with volatile contaminants) does not present unacceptable risks.

Current Human Exposures Under Control Interim Final 2/5/99
Environmental Indicator (EI) RCRIS Event Code (CA725)

Rationale and Reference(s):_ Contaminated groundwater from the former surface impoundments and Roto Pond is discharging to the on-site unnamed tributary which leads to Beaver Creek. During the second quarter of 2003, concentrations of TCE in groundwater are as high as 3000 ug/l in wells downgradient and at the base of the closed waste management area. Trichloroethene was detected in surface water at sampling station SW-A (upstream of the treatment system) at a concentration of 17 ug/l in September 2001. TCE concentrations ranged from 28 ug/l to 100 ug/l in 2000 and 47 ug/l to 230 ug/l in 1999 at the up stream sampling locations. Other contaminants that have been detected in surface water include methylene chloride, vinyl chloride, 1,1-dichloroethylene, 1,2-cis dichloroethene and metals such as nickel and zinc. Surface water concentrations were as high as 63 ug/l for TCE and 15 ug/l for cis1,2-dichloroethene for the second quarter of 2003.

3. Are there **complete pathways** between "contamination" and human receptors such that exposures can be reasonably expected under the current (land - and groundwater-use) conditions?

Summary Exposure Pathway Evaluation Table
Potential **Human Receptors** (Under Current Conditions)

"Contaminated" Media	**Residents**	**Workers**	**Day-Care**	**Construction**	**Trespassers**	**Recreation**	**Food**[3]
Groundwater	No	No	No	No	No	No	No
Air (indoors)	No	No	No	No	No	No	No
Soil (surface, e.g., <2 ft)	No	No	No	No	No	No	No
Surface Water	No	Yes	No	Yes	Yes	No	No
Sediment	No	Yes	No	Yes	Yes	No	No
Soil (subsurface, e.g., >2 ft)	No	No	No	Yes	No	No	No
Air (outdoors)	NC	NC	NC	NC	NC	NC	NC

Instructions for Summary Exposure Pathway Evaluation Table:

1. For Media which are not "contaminated" as identified in #2, please strike-out specific Media, including Human Receptors ÷ spaces, or enter "N/C" for not contaminated.

2. Enter "yes" or "no" for potential "completeness" under each "Contaminated" Media -- Human Receptor combination (Pathway).

Note: In order to focus the evaluation to the most probable combinations some potential "Contaminated" Media - Human Receptor combinations (Pathways) do not have assigned spaces in the above table. While these combinations may not be probable in most situations they may be possible in some settings and should be added as necessary.

____ If no (pathways are not complete for any contaminated media-receptor combination) - skip to #6, and enter "YE" status code, after explaining and/or referencing condition(s) in-place, whether natural or man-made, preventing a complete exposure pathway from each contaminated medium (e.g., use optional Pathway Evaluation Work Sheet to analyze major pathways).

__X__ If yes (pathways are complete for any "Contaminated" Media - Human Receptor combination) - continue after providing supporting explanation. ____ If unknown (for any "Contaminated" Media - Human Receptor combination) - skip to #6 and enter "IN"

[3] Indirect Pathway/Receptor (e.g., vegetables, fruits, crops, meat and dairy products, fish, shellfish, etc.)

status code

Rationale and Reference(s):At the former Eliskim site, contaminant levels exceed standards in the unnamed tributary leading to Beaver Creek. Prior to September 2003, access to the surface water at the site was not restricted. Trespassers could access the unnamed tributary potentially completing an exposure pathway between humans and the contamination in the unnamed tributary.

4 Can the **exposures** from any of the complete pathways identified in #3 be reasonably expected to be "**significant"**[4] (i.e., potentially "unacceptable" because exposures can be reasonably expected to be: 1) greater in magnitude (intensity, frequency and/or duration) than assumed in the derivation of the acceptable "levels" (used to identify the "contamination"); or 2) the combination of exposure magnitude (perhaps even though low) and contaminant concentrations (which may be substantially above the acceptable "levels") could result in greater than acceptable risks)?

__X__ If no (exposures can not be reasonably expected to be significant (i.e., potentially "unacceptable") for any complete exposure pathway) - skip to #6 and enter "YE" status code after explaining and/or referencing documentation justifying why the exposures (from each of the complete pathways) to "contamination" (identified in #3) are not expected to be "significant".

____ If yes (exposures could be reasonably expected to be "significant" (i.e., potentially "unacceptable") for any complete exposure pathway) - continue after providing a description (of each potentially "unacceptable" exposure pathway) and explaining and/or referencing documentation justifying why the exposures (from each of the remaining complete pathways) to "contamination" (identified in #3) are not expected to be "significant".

____ If unknown (for any complete pathway) - skip to #6 and enter "IN" status code

Rationale and Reference(s): In September 2003, the Department installed 7 ft chain link fencing and gates at the property boundary of the former Eliskim facility. The fence will tie into existing fencing around the waste treament area near the most downgradient edge of the surface water and groundwater contaminant plumes and the waste management area. The fencing will prevent access to the contaminated surface water and sediment.

5 Can the "significant" **exposures** (identified in #4) be shown to be within **acceptable** limits?

____ If yes (all "significant" exposures have been shown to be within acceptable limits) - continue and enter "YE" after summarizing and referencing documentation justifying why all "significant" exposures to "contamination" are within acceptable limits (e.g., a site-specific Human Health Risk Assessment).

____ If no (there are current exposures that can be reasonably expected to be "unacceptable")- continue and enter "NO" status code after providing a description of each potentially "unacceptable" exposure.

____ If unknown (for any potentially "unacceptable" exposure) - continue and enter "IN" status code

6. Check the appropriate RCRIS status codes for the Current Human Exposures Under Control EI event code

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[4] If there is any question on whether the identified exposures are "significant" (i.e., potentially "unacceptable") consult a human health Risk Assessment specialist with appropriate education, training and experience.

6. Check the appropriate RCRIS status codes for the Current Human Exposures Under Control EI event code (CA725), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (and attach appropriate supporting documentation as well as a map of the facility)·

__X__ YE - Yes, "Current Human Exposures Under Control" has been verified. Based on a review of the information contained in this EI Determination, "Current Human Exposures" are expected to be "Under Control" at the Eliskim facility, EPA ID 003 342 938, located in Anderson, South Carolina under current and reasonably expected conditions. This determination will be re-evaluated when the Agency/State becomes aware of significant changes at the facility.

____ NO - "Current Human Exposures" are NOT "Under Control"

____ IN - More information is needed to make a determination.

Completed by Cynde Devlin Date 9-29-03
Cynde Devlin, Hydrogeolgist
Division of Hydrogeology
South Carolina Department of Health and Environmental Control

Supervisor Joe B Brevard Date 10·10·03
G. Kendall Taylor, P.G.
Director of Hydrogeology
South Carolina Department of Health and Environmental Control

Locations where references may be found:

Eliskim Post Closure Care Hazardous Waste Permit (rev 9-97)
Annual Monitoring Report 2000
Second Quarter Groundwater Monitoring Data 2003

Contact telephone and e-mail numbers:

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5 FINAL NOTE: THE HUMAN EXPOSURES EI IS A QUALITATIVE SCREENING OF EXPOSURES AND THE DETERMINATIONS WITHIN THIS DOCUMENT SHOULD NOT BE USED AS THE SOLE BASIS FOR RESTRICTING THE SCOPE OF MORE DETAILED (E.G., SITE-SPECIFIC) ASSESSMENTS OF RISK.